

What is claimed is:

1. An isolated nucleic acid comprising a sequence having 98.5% or more identity with the sequence depicted in SEQ ID NO:1.
2. The nucleic acid of claim 1, wherein said nucleic acid is DNA.
3. A vector comprising the nucleic acid of claim 2.
4. A host cell comprising the vector or nucleic acid of claim 3.
5. A polypeptide encoded by the isolated nucleic acid of claim 1.
6. A method for inducing homologous recombination in a cell, said method comprising modulating the expression or properties of one or more gene products selected from the group consisting of AtIno80, At3g57300, Rvb1, Rvb21, Rvb22, Arp5 and Arp8, fragments, derivatives and homologues thereof,.
7. The method of claim 11, said method comprising increasing expression of said gene product.
8. The method of claim 12, said method comprising introducing a nucleic acid encoding said gene product into said cell operably linked to a promoter; and allowing transcription and translation of said gene in an amount sufficient to affect homologous recombination in said cell.
9. The method of claim 13, wherein said homologous recombination is somatic homologous recombination.
10. The method of claim 13, wherein said homologous recombination is meiotic homologous recombination.
11. The method of claim 13, wherein said promoter is an inducible promoter.
12. The method of claim 13, wherein said promoter is a tissue-specific promoter.
13. The method of claim 13, wherein said promoter is a constitutive promoter.

14. The method of claim 13, wherein said promoter is a meiosis-specific promoter.
15. A method of increasing gene targeting to a desired locus in a host cell, said method comprising *introducing a desired gene into a host cell, modulating the expression or properties of one or more gene products selected from the group consisting of AtIno80, At3g57300, Rvb1, Rvb21, Rvb22, Arp5 and Arp8 or functional fragments, derivatives and homologues thereof in said host cell, and detecting integration of said desired gene at a selected locus in the genome of said host cell.*